

# **Cedar River Instream Flow Commission**

## ***Final Minutes***

### **SPU Water Quality Lab**

April 1<sup>st</sup>, 2009

#### **Organizations/Members Present:**

- Seattle Public Utilities (Tom Fox, Rand Little, Karl Burton)
- King County Dept. of Natural Resources and Parks (Steve Hirschey)
- Muckleshoot Tribe (Holly Coccoli)
- Seattle City Light (Liz Ablow)
- Washington Department of Ecology (Jay Cook)
- U.S. Army Corps of Engineers (Larry Schick, Lynne Melder)
- U.S. Fish and Wildlife Service (Tim Romanski)

#### **Guests:**

- Chris McGirl (USGS)
- Nancy Faegenburg, Hans Berge (King Co. DNR and P)

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- I. Call to Order:** Tom Fox called the meeting to order at 9:40 AM.
  - II. Approval of Agenda:** Approved as presented.
  - III. Approval of Draft Minutes:** The IFC did not have any comments on March's minutes, which were approved and finalized.
  - IV. News and Notes:** Holly mentioned that planned upgrades for the Stony Gate valve at the Large Locks may have a funding problem. She will keep the IFC informed on this issue. Steve reported that the state budget would be out soon and some large cuts are expected for the state agencies. Steve also said that the next Washington State AWRA meeting will be hosted by UW students at U of W. on April 26 and the topic will be water reclamation. Tim told the IFC that the USFWS had recently awarded Dwayne Paige its Recovery Champion Award for his work with bull trout in Seattle's Municipal Watershed. Dwayne is a fish and wildlife biologist who leads the Fish and Wildlife Unit at Cedar Falls.

## V. Real Time Water Management

**Hydrologic Conditions for Tolt and Cedar:** Tom reported that Chester Morse Reservoir is currently at an elevation of 1551'. SPU will be closing the service spillway on Thursday, April 2<sup>nd</sup>. This operation will initiate the reservoir refill process for 2009. February was a very dry month but March was close to average in terms of precipitation although most of the measured precipitation came as snow due to colder than normal temperatures. Inflows are below the 10 percentile level because the precipitation lately has been dominated by snow and that snow has not begun to melt yet. The Cedar River Basin has more snow than usual with 110% average snowpack at this time. The Tolt River has approximately 129% average snowpack with low inflows due to the cold temperatures. The S. Fork Tolt Reservoir has already begun refill operations. SPU is still meeting supplemental flow levels for sockeye outmigration in the Cedar River, which should continue through April 15<sup>th</sup> given the current conditions. Tom said that SPU is planning to provide some spring freshets this year. Actual flows are still very close to estimated unregulated flows. There were no downramping exceedances in the month of March and no downramping rate exceedances for the whole of 2008. Current consumption is a bit lower than at this time in 2008. Cumulative consumption is quite close to cumulative consumption in 2008. SEAFM model runs indicate that the reservoir will fill this year even if we encounter 1 in 20 year dry weather conditions.

Instream flow management operations relating to refill will be guided by two biological objectives this spring. First, SPU wants to maximize flow for outmigrating sockeye through April 15<sup>th</sup> followed by a period where flows will be managed closer to allowable minimums to protect steelhead from access to spawning habitat that may be vulnerable to dewatering in the summer. Past observations have indicated that spring spawning salmonids will delay spawning for short periods (1 to 7 days) during times of elevated flows. When additional reservoir releases are required, SPU will attempt to mimic spring freshets in a way that should discourage trout and steelhead from spawning during the freshet and encourage spawning during the periods between freshets.

**Lake Washington:** Lynne informed the IFC that the smolt flumes would be deployed during the week of April 15<sup>th</sup> and operational by the 18<sup>th</sup> or 19<sup>th</sup> of April. The Corps is currently on schedule to refill by June. The saltwater drain will be operational after the fish ladder maintenance is complete, approximately 2 weeks after Memorial Day.

**Fish Update:** Tom Fox notified the IFC that SPU will be cleaning the forebay at Landsburg Dam in the 1<sup>st</sup> week of June. SPU will do the fish removal and NOAA will do the fish tagging and associated measurements. Rand reported that the sockeye broodstock collection weir site near I-5 is currently under construction to

add a trailer pad and an access road to the weir. Rand also reported that Kelly Kiyohara has recently estimated that approximately 2 million natural sockeye fry will emigrate to the lake this year based on the numbers to date. This constitutes a slightly higher natural outmigrant survival rate than in Brood Year 1995, which was the lowest on record. However, in 1995, the sockeye hatchery produced 5 million fry whereas, only 2.5 million hatchery fry were produced from the 2008 sockeye cohort.

Kelly also estimated that approximately 80,000 Chinook fry had outmigrated to the lake so far this year. Rand reminded the IFC that Chinook parr/smolt do not usually start to outmigrate from the Cedar River to Lk. Washington until late April or early May.

Karl informed the IFC that 30 trout redds and no steelhead redds had been observed in Cedar River mainstem surveys in March. Surveys usually continue until the 1<sup>st</sup> week of June.

***Review of Early January Flood:*** Tom reviewed a Powerpoint packet describing the SPU Dam operations before, during and after the flood. Before and during the flood, there was a layer of ice on Masonry Pool and SPU operators were not sure whether it would plug the service spillway and/or the emergency spillway. Fortunately, neither spillway became blocked by ice during the event.

Just prior to the event, the reservoir pool was split so SPU was limited to 300 to 400 cfs moving from Chester Morse Lake to Masonry Pool (the capacity over the overflow dike). SPU was anticipating a substantial storm but was also trying to keep flows below the operating redd scour threshold. The reservoir elevation was near the normal flood rule curve prior to the event. Reservoir elevation was initially projected to peak well below maximum flood management target levels. However, precipitation was heavier than initially forecast. Protracted heavy and relatively warm rain triggered a very rapid increase in reservoir inflows and a subsequent rapid rise in reservoir elevation. Actual flow at Renton peaked at approximately 9500 cfs. The projected unregulated peak flow at Renton would have been over 17,000 cfs.

***Forecasts and Water Supply Outlook:*** Larry told the IFC that snowpack on the West side of Washington is either average or above average depending on the river basin. Last month was the coldest March in 3 decades with 10 to 12 feet of snow making March the biggest month for snow accumulation this winter. Temperatures were running about 5 degrees below normal for the month of March. Larry indicated that low elevation snowpack in the Green River Basin is unusually robust; perhaps even more so than last year's exceptional low elevation snowpack. Tom F. indicated that SNOTELS suggest that Cedar low elevation snow is also unusually robust, but less than last year. The 48-hour forecast calls for heavy snow in the

mountains between now and Friday with warming on Friday afternoon and partly sunny through the weekend. The mid-term (10 to 14 days) and long-term (next 3 months) forecasts both call for normal precipitation and cooler than normal temperatures. Larry also reported that the Corps is looking at the sinkholes near Howard Hansen Dam to evaluate the problem. Some pieces of wood were found in the fill near the dam but there are no conclusions as to the cause of the problem. The Corps is currently targeting 1167' for refill and the sinkholes are at 1190'.

## **VI. King County Flood Hazard Management and Effects of Recent Flood on Habitat Restoration Projects**

***Effects of Flooding on King County's Habitat Restoration Sites, Cedar River:*** Nancy Faegenburg gave a Powerpoint presentation that outlined King County's Flood Hazard Management Program and the effects of the recent flood event on some restoration projects in the Cedar River. She spent most of her time talking about the Cedar Rapids project. In general, the project was a success since it lessened localized flooding above and below the project and it allowed the river to migrate in the flood plain. However, some of the ballast configurations for the LWD fixtures were underestimated and some of the chained log clusters moved downstream during the high flows. Nancy said that King County would be replacing the structures that moved but this time adequate ballast will be used to secure the LWD to the shoreline. King Co. will be removing some of the full spanning logs that were naturally recruited to the project site so boaters will not experience the safety hazard that some logs may have created during the boating season.

## **VII. Supplemental Studies**

***Otolith Study:*** Rand reviewed the results of the discussions in the subgroup that was tasked with coming up with a sampling plan for the adult Chinook otoliths. He distributed short handout describing the recommendation and its rationale. Rand said that the group thought that the 2002 broodyear would be best to sample since all the fish at Issaquah Hatchery were marked that year and both the fry and smolt outmigrant numbers were relatively robust compared to other broods in the otolith collection. Rand said that the subgroup thought sampling only females would be a better measure of productivity from past cohorts since females determine the number of eggs in the gravel for subsequent broodyears. Although 2003 had reasonable numbers of fry, if they didn't survive well in the lake, the number of smolts from those fry may have ended up being as low as one tenth the number of smolts from the river, which would make the comparative statistics less certain. After some discussion, the IFC decided to sample 50 4-year old females from the 2002 broodyear otolith samples as recommended by the subgroup.

***Adaptive Management Program Conceptual Model for Peak Flow Study:***

Chris McGirl gave a presentation that further described the conceptual model for the IHA peak flow study. Liz had provided some comments for the conceptual model and they were reflected in the new handout. Chris reviewed some of the parameters that may be useful to monitor to measure the effects of peak flows. He provided the group with a draft scope of work for cooperative development and initial implementation of a peak flow adaptive management program. He went on to described how a long-term monitoring program could be formatted to meet the needs of the IFC and he indicated that some parameters may be measured using aerial photos to provide baseline information that can be compared to the current channel configuration/template that was set during the recent large flood event. Chris pointed out that management operations will likely only effect the duration and magnitude of medium sized floods and not large floods like the one in January. However, the large flood events set the habitat template that the river does work to during subsequent events so it is important to understand the effects of very large flood events despite Seattle's inability to fully control them. The IFC was requested to provide comments on the draft scope and help refine the list of biological parameters for the conceptual model.

***IHA – next steps:*** As previously requested, Rand distributed initial IHA/EFC parameter output for all 67 hydrologic parameters using the recently developed simulated pre- and post-development mean daily flow data sets. There was insufficient time to discuss the output. Rand requested review of the output and consideration of which parameters might be most useful for the Cedar River.

**VIII. Compliance Report**

The 2008 Annual Instream Flow Compliance Report is nearly complete and will be distributed to the group in the next two weeks

**IX. Agenda Items for Next Meeting:**

- 1) Discussion of modeling results for before/after project flows in IHA.
- 2) Finalizing for Adaptive Management Peak Flow Study.

**X. Meeting adjourned at 1:05 PM**